

(19)



JAPANESE PATENT OFFICE

## PATENT ABSTRACTS OF JAPAN

(11) Publication number: **03077142 A**(43) Date of publication of application: **02 . 04 . 91**

(51) Int. Cl.

**G06F 9/45**(21) Application number: **01213502**(22) Date of filing: **18 . 08 . 89**(71) Applicant: **FUJITSU LTD**(72) Inventor: **HOTTA KOICHIRO  
KIRA MASANORI****(54) LOOP OPTIMIZATION PROCESSING SYSTEM****(57) Abstract:**

**PURPOSE:** To improve the executing efficiency of an object program by extending a case where the loop fusion is possible in an optimization process where the loops of the object program produced by a compiler of a computer are fused into one.

**CONSTITUTION:** A loop detecting part 20 detects plural loops which have the same speed of revolution in terms of an intermediate code 5 of a given program and are continuously processed. A sequence relation processing part 21 detects the data which are defined and used by the loops detected by the part 20. When these loops are fused into one, it is identified whether the using sequence of the data is reverse or not. A fusion processing part 22 fuses the loops into one in the original rotational sequence when the part 21 detects no data and no reverse of the using sequence is produced. Then the part 22 fuses the loops into one with reverse of the rotational sequence and outputs the fused loop as an optimizing intermediate code 23 when the using sequence is totally reversed. Thus even the loops where the processing sequence is inverted by the fusion of

loops can be fused together. Then the possibility of optimization is increased with the fusion of loops.

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